

MINUTES OF DOT-AGC BRIDGE DESIGN SUBCOMMITTEE MEETING

The DOT-AGC Joint Bridge Design Subcommittee met on February 8th, 2006. Those in attendance were:

Berry Jenkins	Manager of Highway Heavy Division, Carolinas Branch AGC (Co-Chairman)
Allen Raynor	Asst. State Bridge Design Engineer
Mark Lively	Crowder Construction
Chris Britton	Taylor & Murphy Construction Co.
Erick Frazier	S.T. Wooten Corporation
Ron Hancock	State Bridge Construction Engineer
Tom Koch	Structure Design Project Engineer
Paul Lambert	Structure Design Engineer
Scott Hidden	Support Services Supervisor - Geotech. Eng. Unit
Chris Kreider	Regional Operations Engineer – Geotech. Eng. Unit
Ron Davenport	State Estimating Engineer – Project Services Unit
Gichuru Muchane	Structure Design Engineer

During the review of the December 14th, 2005 meeting minutes, the following items were discussed:

1. *Pile Driving Equipment Data Form*

Mr. Hidden informed the committee that the Pile Driving Equipment Data Form has been completed and is available on the Geotechnical Engineering Unit's web site. Mr. Hidden encouraged electronic submittal of the form, which will accommodate data for up to four hammers.

The minutes of the December 14th, 2005 meeting were approved.

The following items of new business were discussed:

1. *Pile Hammers*

Mr. Kreider distributed and discussed an analysis of pile hammers for driving HP 12x53 steel piles to an allowable load of 75 tons. The analysis utilized a soil model adopted from the most common hammer submittals. Piles driven to depths ranging from 20 ft to 80ft were examined. The analysis noted that in addition to driving piles to a particular tonnage, the pile hammer energy range was a factor in the hammer's capacity to drive piles of various lengths. The table below summarizes the anticipated effect of the proposed increased tonnage for HP 12x53 piles on pile hammers by energy range.

Max. Energy	Effect of Increased Pile tonnage
< 25 kip-ft.	Insufficient energy to drive piles to proposed tonnage.
< 35 kip-ft.	May not have sufficient energy to drive piles, especially for pile lengths greater than 40 ft.
> 40 kip-ft.	Could reasonably be expected to drive piles to the proposed tonnage.

The analysis was for informational purposes only, and was not intended to give approval or rejection of any hammer. Contractors are still required to submit hammer approval requests per the current policy.

Contractors raised concerns of overstressing piles due to use of larger pile hammers. However, Mr. Kreider noted that the Department is now utilizing 50 ksi steel piles and therefore did not expect pile overstressing to be an issue. Mr. Hidden agreed to send an electronic copy of the chart and a detailed explanation of why higher tonnage piles are needed to Mr. Hancock for further industry distribution.

2. *2006 Standard Specifications for Roads and Structures*

Mr. Koch stated that the 2006 *Standard Specifications for Roads and Structures* had been published and is now available. He noted that numerous Special Provisions had been incorporated into the new Standard Specifications.

3. *Girder Shipping Lengths*

Mr. Koch stated that the figure that shows limits for placement of beams and girders during shipment (shipping diagram) has been omitted from 2006 *Standard Specifications for Roads and Structures*. The new Standard Specifications include verbiage requiring that steel structural members be loaded and transported on trucks without overstressing or damaging them.

Mr. Koch added that the shipping diagram would be updated and included in a new Special Provision.

4. *Lump Sum Projects*

Mr. Hancock requested feedback and contractor comments on lump sum projects.

In general, the contractors were in favor of lump sum projects, with everyone in agreement that a separate per ton pay item be provided for asphalt.

5. *Other*

i. Mr. Hancock noted that the March 2006 deadline for welder certification was approaching. Mr. Britton inquired if welders could certify for several welder levels during one test period. In addition, he suggested training for the Department's inspectors.

ii. Mr. Hancock distributed a memorandum from the Georgia Carolinas PCI that lists their concerns in obtaining hauling permits. He also provided the contractors with a copy of the "Oversize / Overweight Permit Handbook" and explained some of the issues the Permitting Unit deals with. Since hauling permits for girders are done by a 3rd party, communication between all groups is very critical.

iii. Mr. Britton expressed some concerns with the AGC Crane Safety Certification program. He stated that it was too broad in that crane operators are tested on equipment they do not routinely operate. He preferred a certification program that is tailored for equipment that most contractors use on bridge projects. Mr. Hancock stated that the Construction Unit is in the process of developing guidelines for alternate certification programs.

6. *Next Meeting*

The next meeting is scheduled for April 11th, 2006 in the Structure Design Conference Room C.